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six to more than one hundred. In ARGELANDER's *Durchmusterung*, the average number is 15.2, in SCHOENFELD's it is 18.5, and in the Cordoba D. M. (-22° to -42°) it is 56.1. —Abstract of a paper in the *Monthly Notices R. A. S.*, Vol. LVII, p. 297.

INTERNATIONAL CATALOGUE OF FUNDAMENTAL STARS.

In May, 1896, a Conference was held at Paris at the invitation of the *Bureau des Longitudes*, to consider a plan for the formation of a fundamental catalogue of standard stars for the ephemerides published in France, England, Germany, and America. The personnel of the Conference was Messrs. AUWERS (Germany), BACKLUND (Russia), BAUSCHINGER (Germany), CHRISTIE (England), DOWNING (England), GILL (Cape of Good Hope), LOEWY (France), NEWCOMB (United States), TISSERAND (France). M. FAYE (France) acted as President, and Messrs. v. d. S. BAKHUYSEN (Holland) and TRÉPIED (France) served as Secretaries. The conclusions of the Conference were adopted with practical unanimity. The most important were as follows: For the fundamental catalogue, the equinox should be determined solely from observations of the Sun, excluding those of *Mercury* and *Venus*. The equinox of Professor NEWCOMB's system (N_1) in Vol. I of the *Astronomical Papers of the American Ephemeris* was adopted.* In view of the uncertainty that still exists with regard to the numerical value of the personal error depending on magnitude, which affects the R. A., it was decided that corrections for such errors should *not* be applied. But as the existence of such (small and systematic) errors is undoubted, the Conference considered that observatories should make researches to fix their amounts. Professor NEWCOMB was entrusted with the duty of fixing the values of the precessions to be employed. The Conference decided to adopt the following constants: Nutation, $9''.21$;† Aberration, $20''.47$;‡ Solar Parallax, $8''.80$.§ It was decided that in the reduction of mean places of stars to apparent, the term of short period in R. A. (f') depending on twice the Moon's longitude should be omitted for both polar and equatorial stars.

* Catalogue of 1098 stars.

† Dr. GILL's determination = $9''.207 \pm 0''.003$.

‡ From the adopted solar-parallax and the NEWCOMB-MICHELSON value of the velocity of light there results $20''.467 \pm 0''.012$.

§ Dr. GILL's determination (heliometer) $8''.802 \pm 0''.005$.

Professor NEWCOMB was entrusted with the duty of preparing a provisional fundamental catalogue, which is to be finished during 1896. This catalogue is to contain about 1000 fundamental stars. The Conference laid down various other principles on which the catalogue should be constructed which are not mentioned here. It also expressed the hope that a scheme of international co-operation might be established for the calculation of the perturbations and ephemerides of the minor planets (of which there are now more than 400). The opinion was also formally expressed that a first-class *reversible* meridian-instrument, suitable for fundamental work, should be erected at one of the southern observatories. The changes of astronomical constants, as recommended by the Conference, are to take effect in the ephemeris for 1901. "There appears to be every reason to expect that the catalogue will be ready in good time, and that astronomers may look forward to the inauguration of a new era in the history of astronomical ephemerides at the commencement of the twentieth century."—Abstract of a paper by Dr. DOWNING in the *Monthly Notices R. A. S.*, Vol. LVII, page 299.

PROBABLE ERROR OF A SINGLE OBSERVED POSITION IN
SOME FREQUENTLY USED CATALOGUES AND
COLLECTIONS OF STARS.

The probable accidental error of an observed place, depending on a single observation, in the following catalogues, etc., is (approximately) as follows:—

	R. A. (Equator). s.	Decl. "
Harvard College Observatory (Vol. XII)	- .02	0.3
Berlin Observatory (670 stars)	- - .02	0.3
" Observatory (521 stars)	- - ± 0.03	± 0.3
Lick Observatory (310 stars)	- - - .03	0.3
Pulkowa Catalogue (Vol. VIII)	- - - .03	0.3
" " (5634 stars)	- - .04	0.3
Washburn Observatory (303 stars)	- - - .03	0.4
Yarnall's Catalogue	- - - .03*	0.5*
Dunsink Observatory (717 stars)	- - - .04	0.5
Harvard College Observatory (A. G. Zone)	- .03	0.6
Dudley Observatory (A. G. Zone)	- - .04	0.6
Helsingfors-Gotha Observatory (A. G. Zone)	- .06	0.6
Cincinnati Observatory (2000 stars)	- .05	0.6
Bonn Observatory (Vol. VI; bright stars)	- .04	0.6